Exploring the Student Performance Gap

HIGHLIGHTS

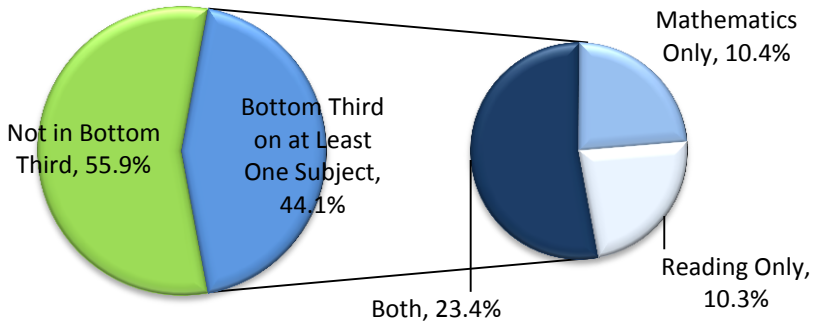
- **70% of students** who performed in the *Bottom Third* in both reading and mathematics **remained there the following year**.
- **75% percent** of the students performing in the *Bottom Third* qualified for **Free/Reduced Lunch (FRL)**.
- **56% of all students qualifying for FRL** performed in the *Bottom Third* in reading or mathematics.
- **73% of all students receiving special education** services performed in the *Bottom Third* in reading or mathematics.
- **66% of all Black students** performed in the *Bottom Third* in reading or mathematics.
- **55% of all Hispanic students** performed in the *Bottom Third* in reading or mathematics.
- **More school districts demonstrated higher average student growth for the *Top Third*** than the *Bottom Third* students for both reading and mathematics.
- **Less than 10%** of students who were in the *Bottom Third* in 8th grade met **College Readiness** in 11th grade.

This report provides analysis of student growth and performance outcomes of the *Bottom Third* of performers on Kentucky's state assessment (K-PREP) in early grades, specifically 4th through 6th grades, as compared to growth and performance outcomes of students in the *Top Third* in reading and mathematics. The report further examines the relationship between 8th grade *Bottom Third* and College Readiness at the time of high school graduation.

The *Bottom Third* in Early Grades

This report highlights the growth of Kentucky's highest and lowest performing students in grades 4 through 6 over the course of one academic year. K-PREP mathematics and reading scores for 4th through 6th grade students in the 2014 academic year [AY] were used to calculate the 33rd and 67th percentile cutoffs for determining the *Bottom Third* and *Top Third* student groups referenced in this section (see Appendix A). **Students were grouped into the *Bottom Third* if their performance was below the established cutoffs for their grade level in reading only, mathematics only, or both reading and mathematics. Similarly, students were grouped in the *Top Third* if their scores were above the cutoffs in the same distinct categories.** The percentage of students in the *Bottom Third* for the 2014 AY for each of the three categories is presented in Figure 1.1. Approximately 44% (N=62,342) of students performed in the *Bottom Third* in at least one subject area. 23% of all students (N=33,038), which is 53% of students in the *Bottom Third* in at least one subject area, performed in the *Bottom Third* for both subjects – reading and mathematics (see Figure 1.1).

Figure 1.1: Students in the *Bottom Third* for the 2014 K-PREP



KCEWS KENTUCKY CENTER FOR EDUCATION & WORKFORCE STATISTICS

Description of the *Bottom Third* in Early Grades

For those students in the *Bottom Third* in at least one subject, reading or mathematics for the 2014 K-PREP, their 2015 K-PREP performance is examined to see if these students stay in or move out of the *Bottom Third* for the same category in 2015 (see Table 1.1).

Table 1.1: *Bottom Third* Progression from 2014 to 2015 K-PREP in Reading and Mathematics

2014 K-PREP *Bottom Third*	2015 K-PREP *Bottom Third*: Both Reading and Mathematics	Mathematics Only	Reading Only	Not In *Bottom Third*	Total 2014 K-PREP
Both Reading and Mathematics	23,191	3,653	3,416	2,778	**33,038**
	70.2%	**11.1%**	**10.3%**	**8.4%**	
Mathematics Only	4,151	4,545	1,201	4,868	**14,765**
	28.1%	**30.8%**	**8.1%**	**33.0%**	
Reading Only	3,769	1,233	4,364	5,173	**14,539**
	25.9%	**8.5%**	**30.0%**	**35.6%**	
Not In *Bottom Third*	3,230	4,570	4,929	66,230	**78,959**
	4.1%	**5.8%**	**6.2%**	**83.9%**	
Total 2015 K-PREP	**34,341**	**14,001**	**13,910**	**79,049**	**141,301**

Declined	Improved in one, Declined in other	Remained the Same	Improved

Sample interpretation of Table 1.1:

35.6% (N=5,173) of students in the *Bottom Third* in Reading Only on the 2014 K-PREP improved to performing above the *Bottom Third* cutoff in both subjects in 2015.

Most students performing in the *Bottom Third* performed there for both reading and mathematics, and most of these students' (70.2%; N=23,191) performance remained in the bottom third in reading and mathematics the following year – a trend that exists for the *Top Third* of performers as well. **Movement out of the *Bottom Third* of performers in the next academic year was less likely if a student scored in the *Bottom Third* on both subject tests.**

Specific student populations were examined to determine whether certain student groups were more or less likely to move out of the *Bottom Third* (see Figures 1.2-1.4; Table 1.2). 56% (N= 46,629) of students qualifying for FRL performed in the *Bottom Third* group (see Figure 1.2) as compared to 27% of students not qualifying for FRL (see Figure 1.3). The **majority of students qualifying for FRL in the *Bottom Third*** performed there in both reading and mathematics (see Table 1.2). The **majority of students receiving special education (73%) are performing in the *Bottom Third*** (see Figure 1.4). Students receiving special education services were more likely than their peers receiving general education to perform in the *Bottom Third* (see Figure 1.5). 52% of students receiving special education performed in the *Bottom Third* in reading and mathematics as compared to 19.5% of students receiving general education who performed there (see Table 1.2). Additionally, **Black, Non-Hispanic students** were more likely to perform in the *Bottom Third* in at least one subject (65.9%; N=9,698) than their White peers (40.7%; N=45,895) (see Table 1.2).

Figure 1.2: FRL

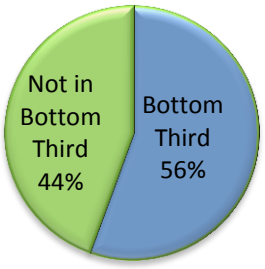


Figure 1.3: Non-FRL

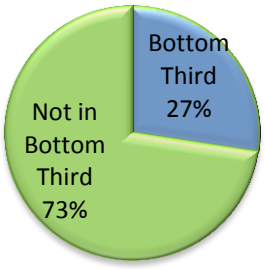


Figure 1.4: Special Education

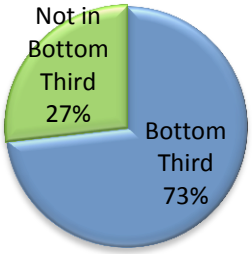


Figure 1.5: General Education

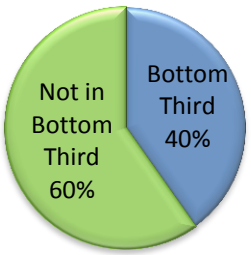


Table 1.2 Percentages of Specific Student Populations in the *Bottom Third*

Specific Student Populations	Bottom Third				Not in Bottom Third	Student Total
	Both	Reading	Math	Bottom Third Total		
Free and/or Reduced Lunch (FRL)						
FRL	26,464	9,900	10,265	46,629	37,343	83,972
	31.5%	11.8%	12.2%	**55.5%**	**44.5%**	
Non-FRL	6,574	4,639	4,500	15,713	41,616	57,329
	11.5%	8.1%	7.8%	**27.4%**	**72.6%**	
Special Education						
Special Education	8,728	1,498	2,064	12,290	4,500	16,790
	52.0%	8.9%	12.3%	**73.2%**	**26.8%**	
General Education	24,310	13,041	12,701	50,052	74,459	124,511
	19.5%	10.5%	10.2%	**40.2%**	**59.8%**	
Race and Ethnicity						
Black, Non-Hispanic	6,366	1,686	1,646	9,698	5,011	14,709
	43.3%	11.5%	11.2%	**65.9%**	**34.1%**	
White, Non-Hispanic	22,973	11,176	11,746	45,895	66,962	112,857
	20.4%	9.9%	10.4%	**40.7%**	**59.3%**	
Other, Non-Hispanic	321	261	114	696	1,697	2,393
	13.4%	10.9%	4.8%	**29.1%**	**70.9%**	
Two or More Races	1,105	458	462	2,025	2,010	4,035
	27.4%	11.4%	11.4%	**50.2%**	**49.8%**	
Hispanic or Latino, regardless of Race	2,273	958	797	4,028	3,279	7,307
	31.1%	13.1%	10.9%	**55.1%**	**44.9%**	

District Reading and Mathematics Student Growth in Early Grades

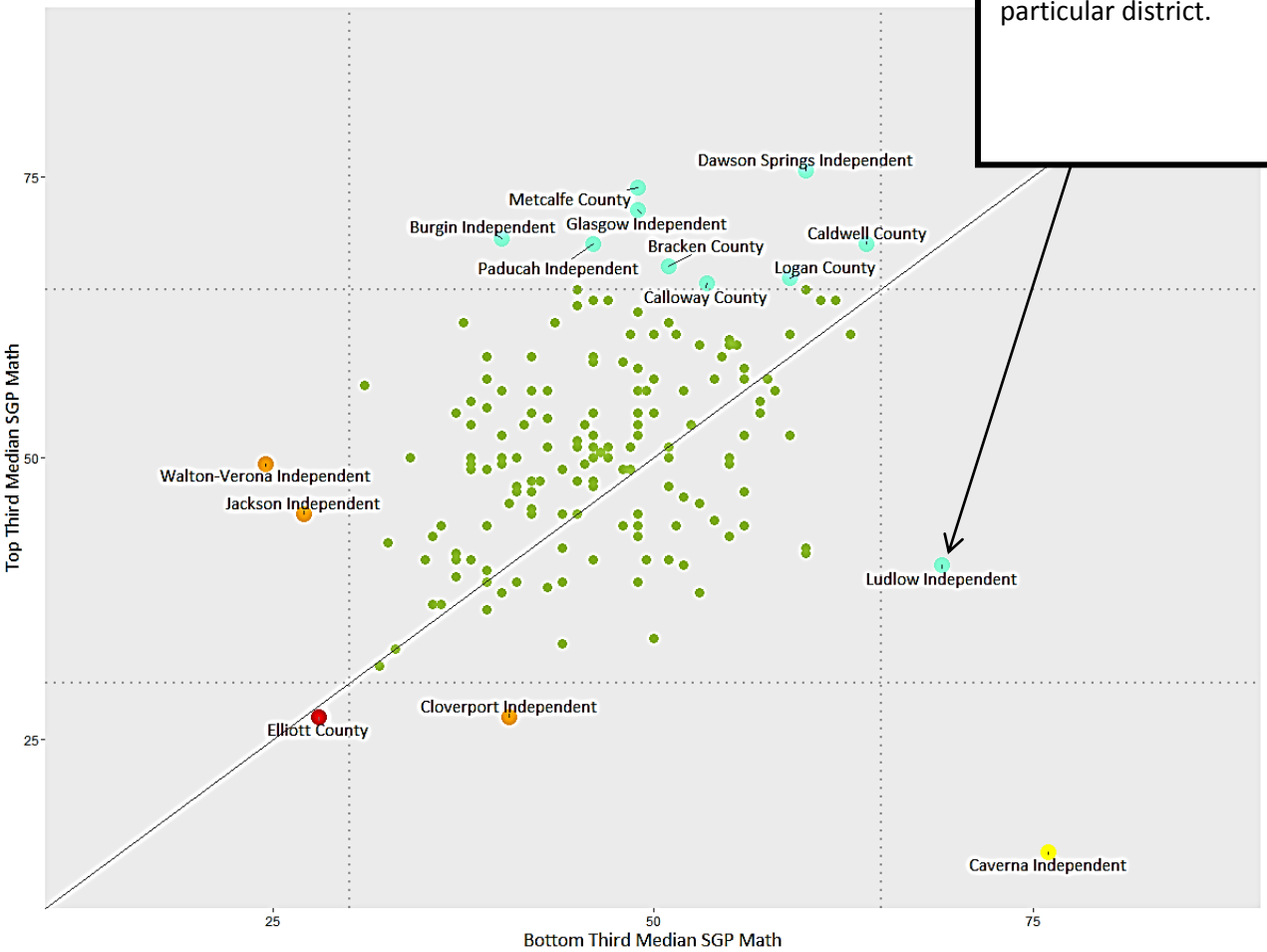
Student growth percentiles (SGP) allow us to examine student growth on K-PREP from one year to the next. Here, only students performing in the *Bottom* or *Top Third* for both reading and mathematics for the 2014 K-PREP are examined in this section. The following figures show the median SGPs for 2015 K-PREP scores in mathematics (Figure 1.5) and reading (Figure 1.6) for students performing in the 2014 *Bottom* or *Top Third* in both reading and mathematics. Each dot represents a Kentucky school district. Any school district with less than ten students in either the *Bottom* or *Top Third* is redacted and does not have an average SGP calculated. **Districts found close to the line indicate where students in both the *Bottom* and *Top Third* of performers are improving on average at the same rate.**

Both relative location along the reference line and distance from the reference line are important interpretive points for this image. **Districts higher along the line have higher average student growth for both *Bottom* and *Top Third* performing students**. The legend below Figures 1.5 and 1.6 shows the color-coding based on the Kentucky Department of Education's (KDE) expected student growth ranges. A brief description of the range and expected student growth percentiles is included in Appendix A.

Sample interpretation of Figure 1.5:

Students performing in the ***Bottom Third*** in Ludlow Independent school district improved **at a higher rate** than expected, while students performing in the *Top Third* in Ludlow Independent school district improved as expected in mathematics for this particular district.

Figure 1.5: Average Mathematics 2015 K-PREP SGP by District



District KDE Expected SGP Performance, Top and Bottom Thirds

- Both Below
- One Below, One Expected
- One Below, One Above
- Both Expected
- One Expected, One Above
- Both Above

KCEWS KENTUCKY CENTER FOR EDUCATION & WORKFORCE STATISTICS

The green dots indicate districts that have an expected average student growth percentile for both the *Bottom* and *Top Third performers*. The **majority of districts outside the expected range** are above the line for mathematics (see Figure 1.5) and reading (see Figure 1.6) which indicates the ***Top Third* students are showing on average more growth** compared to the average growth for the *Bottom Third performers*. Five districts have less than expected student growth for the *Bottom Third* in either reading or mathematics (Walton-Verona Independent, Jackson Independent, Elliott County, Dawson Springs Independent, and Raceland-Worthington Independent). Less than expected student growth in the *Top Third* performers is seen in five districts (Elliott County, Cloverport Independent, Caverna Independent, Newport Independent, and Middlesboro Independent), and of these districts one has lower than expected student growth for both the *Bottom* and *Top Third* performing students in mathematics (Elliott County).

Sample interpretation of Figure 1.6:

In districts above the expected line, ***Top Third*** performing students are showing on average **greater than expected (or above expected) growth** compared to the average growth of the *Bottom Third performers* in Reading.

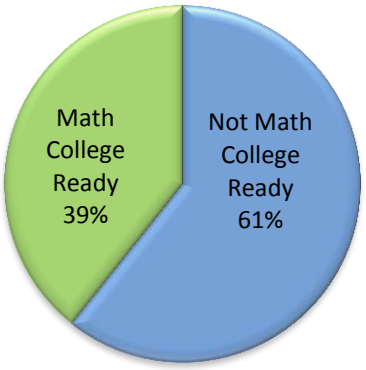
Figure 1.6: Average Reading 2015 K-PREP SGP by District

The percentage of districts showing larger growth on average for the *Bottom Third* when compared to the *Top Third* in reading was 21% (N=36) and 27% (N=45) for mathematics (Total N= 167 districts after redaction). The spread of the districts for average growth in mathematics was not as wide as the spread for average growth in reading. A table for each district listing the average SGP for the *Bottom* and *Top Third* for reading and mathematics is included at the end of this report (see Appendix B).

Bottom Third in 8th Grade Towards College Readiness

This section examines the relationship between students' performance on the 2012 K-PREP reading and mathematics tests in 8th grade and state-defined college readiness in the 11th grade in the 2015 AY, as indicated by performance on the junior year ACT test administered to all 11th graders in Kentucky. Only the students who had scores for the 8th grade 2012 K-PREP and who had progressed to the 11th grade in 2015 with an ACT score were used in this analysis (see Appendix C for a description of this cohort). 84% (N = 42,123) of the initial 8th grade cohort (N = 49,307) advanced to 11th grade in the 2015 AY. Similar to determining the *Bottom Third* performers for the 2014 K-PREP for grades 4 through 6 in the first section, cutoffs for the 2012 K-PREP were used to classify 8th graders as either scoring in the *Bottom Third* for reading or mathematics (see Appendix C). The Kentucky Department of Education's college readiness benchmarks were used to group students in the *Bottom* or *Top Third* of performers in 11th grade based upon their 2015 AY ACT score (see Appendix C). The assumption is that the 8th grade mathematics 2012 K-PREP test is related to performance on the mathematics ACT test, while the 8th grade reading 2012 K-PREP test is related to the English and reading ACT tests. For this section, it is important to note that *Bottom Third* performers for reading and *Bottom Third* performers for mathematics were the only categories examined - whether a student performed in the *Bottom Third* in both subject areas was not considered.

Figure 2.1: Mathematics 2015 ACT College Readiness



Mathematics K-PREP toward College Readiness

All students who had both an 8th grade mathematics 2012 K-PREP score and an 11th grade Mathematics ACT score in 2015 AY are included in Figure 2.1. While the majority of students (61%) failed to meet the college readiness standards regardless of 8th grade mathematics K-PREP performance, only 3.2% of students performing in the *Bottom Third* for mathematics in 8th grade recovered to meet college readiness standards in 11th grade.

Table 2.1: Mathematics 2012 K-PREP toward 2015 Mathematics College Readiness

Status Math 2012 K-PREP	Math 2015 College Ready	N	Percent
Not in *Bottom Third* Math		28,788	
	Not Math College Ready	13,464	46.8%
	Math College Ready	15,324	**53.2%**
Bottom Third Math		11,134	
	Not Math College Ready	10,778	96.8%
	Math College Ready	356	**3.2%**
Grand Total		39,922	

Declined	Remained the Same	Improved

The **vast majority of 8th grade students who performed in the *Bottom Third*** of the Math 2012 K-PREP test **failed** to recover this ground by 11th grade, with only 3.2% of these students meeting **the college readiness standards in mathematics by 11th grade.**

Reading K-PREP toward College Readiness

Both English and reading college readiness are considered to be related to performance on the 8th grade reading for the 2012 K-PREP; therefore, meeting college readiness standards in English and reading in 11th grade were examined by reading performance in 8th grade. The subset of students used for English college readiness had scores on both the reading 2012 K-PREP assessment and the English 2015 ACT test; similarly, the subset of students used for reading college readiness had scores on both the reading 2012 K-PREP assessment and the reading 2015 ACT test. Overall, students showed greater improvement in English and reading college readiness, than mathematics college readiness, with 57% (N=22,684) of students included in this analysis demonstrating English college readiness and 49% (N=19,443) demonstrating reading college readiness (see Figure 2.2 and Figure 2.3).

Figure 2.2: English 2015 ACT College Readiness

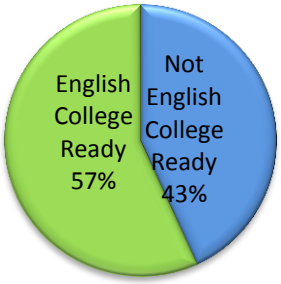


Figure 2.3: Reading 2015 ACT College Readiness

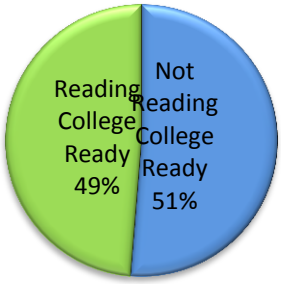


Table 2.2: Reading 2012 K-PREP toward 2015 English and Reading College Readiness

Status Reading KPREP 2012	Status English ACT 2015	N	Percent
Not in *Bottom Third* Reading		27,844	
	Not English College Ready	6,966	25.0%
	English College Ready	20,878	**75.0%**
Bottom Third Reading		12,085	
	Not English College Ready	10,279	85.1%
	English College Ready	1,806	**14.9%**
Grand Total		39,929	

Status Reading 2012 K-PREP	Status Reading 2015 ACT	N	Percent
Not in *Bottom Third* Reading		27,843	
	Not Reading College Ready	9,661	34.7%
	Reading College Ready	18,182	**65.3%**
Bottom Third Reading		12,078	
	Not Reading College Ready	10,817	89.6%
	Reading College Ready	1,261	**10.4%**
Grand Total		39,921	

In comparison to students recovering from low performance in mathematics in 8th grade, students appeared to recover better from low 8th grade reading 2012 K-PREP performance, with 14.9% of students who scored in the *Bottom Third* in reading reaching the college readiness benchmark in English.

The percentage of students meeting college readiness standards in reading when performing in the *Bottom Third* for reading in 8th grade is lower than the percentage of students meeting college readiness standards in English. Approximately 10% of students who scored in the *Bottom Third* of the reading K-PREP in 8th grade met the reading college readiness benchmark on the 11th grade ACT test.

Declined	Remained the Same	Improved

Another important way to consider these data is to look at the students who were College Ready in the 2015 AY, and determine what percentage of those students performed in the *Bottom Third* on the respective tests in the 2012 AY. This table shows that less than 10% of those students who were College Ready in 2015 AY performed in the *Bottom Third* in those subject tests in the 2012 AY. Only 2.2% of those students who were mathematics College Ready had performed in the *Bottom Third* in mathematics in 8th grade.

Status 2015 ACT	Status 2012 K-PREP	N	Percent
Reading College Ready		19,443	
	Bottom Third Reading	1,261	6.4%
English College Ready		22,684	
	Bottom Third Reading	1,806	7.9%
Math College Ready		15,680	
	Bottom Third Math	356	2.2%

Summary

This report should give pause to Kentucky's parents, community members, policy makers, and educators. Overall, the results of these analyses showed that when children perform near the bottom of the distribution of scores on standardized assessments in the early grades, there is minimal likelihood that they will ever make up enough academic ground to perform at significantly higher levels in later years. Put succinctly, Kentucky students who in early grades perform in the *Bottom Third* in reading *and* mathematics are **less likely to perform above the *Bottom Third* in either reading or mathematics in later years**. Students who perform in the *Bottom Third* in reading *or* mathematics have somewhat of a better chance of moving out of the *Bottom Third* in that subject area. These results are made even more troubling by the finding that more than half of some groups of students perform in the *Bottom Third* in reading or mathematics: students receiving free or reduced priced lunches, students with special needs, Black students, and Hispanic students. Further alarming, **more Kentucky school districts are demonstrating higher average student growth for the *Top Third*** performing students than for the *Bottom Third* performing students in both reading and mathematics, leading to the widening of performance gaps between Kentucky's higher performing students and lower performing students. Further evidence of the lower performing students' trajectories being unchanged as they progress in school is the finding that, **less than 10%** of students who score in the *Bottom Third* in 8th grade meet **college readiness standards** in 11th grade.

Appendix A

Bottom Third in Early Grades: *Bottom* and *Top Third* Cutoff Description

First, the 33rd and 67th percentiles for all students in 4th, 5th, and 6th grades for reading K-PREP scores in 2014 and 2015 and mathematics K-PREP scores in 2014 and 2015 were calculated as cutoffs for the *Bottom* and *Top Third*. The following cutoffs were used for the *Bottom Third* and *Top Third*, respectively:

Grade – Academic Year	Test	33rd Cutoff	67th Cutoff
4th – 2014	Math K-PREP	201	218
4th – 2015	Math K-PREP	202	219
4th – 2014	Reading K-PREP	203	217
4th – 2015	Reading KPREP	204	218
5th – 2014	Math K-PREP	202	217
5th – 2015	Math K-PREP	199	215
5th – 2014	Reading K-PREP	205	218
5th – 2015	Reading K-PREP	204	219
6th – 2014	Math K-PREP	200	216
6th – 2015	Math K-PREP	198	213
6th – 2014	Reading K-PREP	204	219
6th – 2015	Reading K-PREP	206	217

Once the cutoffs were made, the students were ranked with respective percentiles. Students were labeled *Bottom Third* mathematics group if they fell in the 33rd percentile or below on the mathematics K-PREP and *Top Third* mathematics group if they fell in the top 67th percentile or higher on the mathematics KPREP. The same rules applied to the reading K-PREP with groups called *Bottom Third* Reading Group and *Top Third* Reading group. If a student fell in the *Bottom* or *Top Third* for Both the mathematics and reading K-PREP, they were labeled *Bottom Third* Both Group or *Top Third* Both Group.

KDE Rating Assigned for MSGP

The Median Student Growth Percentile (MSGP) is the state contribution of student growth obtained from SGP derived from reading and mathematics scores on the Kentucky Performance Rating for Educational Progress (K-PREP). For teachers of grades 4-8, the median score is calculated and a rating is assigned using the state-provided cut scores below:

- Low – MSGP less than 30
- Expected – MSGP between 30 and 65
- High – MSGP above 65

Appendix B

District 2015	District Name	*Bottom Third* Math MSGP 2015	*Bottom Third* Reading MSGP 2015	*Top Third* Math MSGP 2015	*Top Third* Reading MSGP 2015	*Top Third* Count	*Bottom Third* Count
1	Adair County	37	40	41	47.5	94	147
5	Allen County	61	52.5	64	59	99	156
11	Anderson County	46	49	50	55.5	220	137
12	Ashland Independent	42	47	56	58	156	126
15	Ballard County	41	55	39	59	57	59
16	Barbourville Independent	42	51	45.5	62	24	59
17	Bardstown Independent	44	38	42	47.5	120	177
21	Barren County	49	46	56	50.5	209	206
25	Bath County	46	50	52	50	82	122
26	Beechwood Independent	45	31	65	62	139	24
31	Bell County	46	53	41	53	76	166
32	Bellevue Independent	49	46.5	45	63	19	36
34	Berea Independent	39	45	49	55	45	79
35	Boone County	43	45	56	56	1255	831
41	Bourbon County	40	52	50	53	128	128
42	Bowling Green Independent	45	49	51.5	75	226	209
45	Boyd County	49	45.5	53	53.5	138	128
51	Boyle County	55	52	60.5	56	196	65
55	Bracken County	51	47	67	50	41	85
61	Breathitt County	39	41	39	50.5	62	158
65	Breckinridge County	51	48.5	51	51	151	100
71	Bullitt County	42	47	45	51	590	655
72	Burgin Independent	40	37	69.5	65	24	21
75	Butler County	46	45	58.5	52	58	123
81	Caldwell County	64	40	69	55	87	91
85	Calloway County	53.5	50.5	65.5	55	176	112
91	Campbell County	40	40	56	51.5	336	140
92	Campbellsville Independent	43	43	53.5	58.5	44	85
95	Carlisle County	45	50	48	60.5	26	34
101	Carroll County	40.5	40.5	46	49	69	110
105	Carter County	45.5	49	53	58	217	214
111	Casey County	49	65	43	61.5	112	83
113	Caverna Independent	76	54	15	35	16	35
115	Christian County	41	41	50	52	333	570
121	Clark County	45	45	51	55.5	256	241
125	Clay County	38	48	50	46.5	158	182
131	Clinton County	51	47	47.5	51	68	107
132	Cloverport Independent	40.5	41.5	27	66.5	18	28
133	Corbin Independent	62	55	64	59	182	93

District 2015	District Name	*Bottom Third* Math MSGP 2015	*Bottom Third* Reading MSGP 2015	*Top Third* Math MSGP 2015	*Top Third* Reading MSGP 2015	*Top Third* Count	*Bottom Third* Count
134	Covington Independent	41	40.5	47.5	44.5	98	305
135	Crittenden County	50	46	61	64	69	68
141	Cumberland County	60	56	41.5	57	26	61
143	Danville Independent	38	41	55	50	75	96
145	Daviess County	55	52	60	59	630	370
146	Dawson Springs Independent	60	29	75.5	74.5	24	33
147	Dayton Independent	55	51	49.5	35.5	30	49
149	East Bernstadt Independent	40	58	49.5	36.5	36	27
151	Edmonson County	53	54	38	46	91	79
152	Elizabethtown Independent	35	46	41	60	149	90
155	Elliott County	28	47.5	27	39	25	60
156	Eminence Independent	39	54.5	54.5	52	32	58
157	Erlanger-Elsmere Independent	42	40.5	48	63	71	142
161	Estill County	41	34	50	55	63	183
162	Fairview Independent	38	43	53	45.5	18	49
165	Fayette County	42	40	59	58	2466	1864
171	Fleming County	60	48	65	56	94	121
175	Floyd County	52	53	40.5	46	330	204
176	Fort Thomas Independent	54.5	52	59	54	329	46
177	Frankfort Independent	38	41.5	53	72	23	57
181	Franklin County	43	41	51	54	281	340
185	Fulton County	46	37	48	51	16	37
186	Fulton Independent	32	41	31.5	33	10	29
191	Gallatin County	45	41	63.5	64	40	120
195	Garrard County	51	47.5	50	55.5	104	158
197	Glasgow Independent	49	55	72	53	112	101
201	Grant County	46	42	59	61.5	110	251
205	Graves County	55	51	50	52	255	173
211	Grayson County	45	52.5	45	55	197	208
215	Green County	48.5	52	51	46	79	80
221	Greenup County	37.5	41	62	55	107	161
225	Hancock County	52	43	46.5	50	100	85
231	Hardin County	47	45	51	53	563	651
235	Harlan County	49	52	39	40	171	209
236	Harlan Independent	40	59	38	52.5	28	31
241	Harrison County	38	36	49	66	119	155
245	Hart County	41	45	47	53	96	110
246	Hazard Independent	49	41.5	58	51	48	40
251	Henderson County	57	46	55	53	451	253
255	Henry County	46	43	51	49	75	151

District 2015	District Name	*Bottom Third* Math MSGP 2015	*Bottom Third* Reading MSGP 2015	*Top Third* Math MSGP 2015	*Top Third* Reading MSGP 2015	*Top Third* Count	*Bottom Third* Count
261	Hickman County	51.5	47	44	68	21	44
265	Hopkins County	57	61	54	50	331	258
271	Jackson County	40	38.5	52	45	51	118
272	Jackson Independent	27	28.5	45	68	15	20
275	Jefferson County Public Schools	39	37	57	56	4195	6195
276	Jenkins Independent	60	49	42	49	15	31
281	Jessamine County	44	45	49	58	367	394
285	Johnson County	49.5	45	41	40	215	94
291	Kenton County	47	47	50	58	926	558
295	Knott County	50	54	34	40	79	122
301	Knox County	49	53	54	56	107	301
305	LaRue County	38	38	49.5	53	134	100
311	Laurel County	49	54	52	51	571	330
315	Lawrence County	44	54	45	48.5	82	169
321	Lee County	42.5	30	48	46.5	48	38
325	Leslie County	56	61	57	55	35	114
331	Letcher County	58	59	56	52	113	159
335	Lewis County	41.5	32	53	48	71	164
341	Lincoln County	42	45	47	47	133	225
345	Livingston County	36	43	44	60	47	75
351	Logan County	59	48	66	56	168	130
354	Ludlow Independent	69	61	40.5	52.5	30	45
361	Lyon County	39	36.5	36.5	58	46	36
365	Madison County	49.5	53	56	55	576	522
371	Magoffin County	44	52	39	42	87	113
375	Marion County	50	37	54	57	144	133
381	Marshall County	49	48	44	56	325	123
385	Martin County	48	50	44	53.5	68	122
391	Mason County	63	56	61	45	100	127
392	Mayfield Independent	56	57	52	54	72	94
395	McCracken County	53	52	60	55	417	241
401	McCreary County	54	46	57	49	99	160
405	McLean County	55.5	42	60	56	65	82
411	Meade County	56	53.5	58	58	287	178
415	Menifee County	35.5	38.5	37	61	26	56
421	Mercer County	46	51	64	61	98	167
425	Metcalfe County	49	45	74	48	64	88
426	Middlesboro Independent	51	46	41	26	18	100
431	Monroe County	44	45	33.5	36.5	102	70
435	Montgomery County	48.5	51	61	54	320	153

District 2015	District Name	*Bottom Third* Math MSGP 2015	*Bottom Third* Reading MSGP 2015	*Top Third* Math MSGP 2015	*Top Third* Reading MSGP 2015	*Top Third* Count	*Bottom Third* Count
441	Morgan County	31	41	56.5	55	102	90
445	Muhlenberg County	45	49	51	55.5	302	187
446	Murray Independent	43	51	56	64	142	29
451	Nelson County	47	38	64	58.5	212	234
452	Newport Independent	33	33	33	29	23	176
455	Nicholas County	49	56	63	58	27	67
461	Ohio County	46.5	42.5	50.5	53.5	166	178
465	Oldham County	51	47	62	57	962	366
471	Owen County	37.5	49	62	60.5	68	106
472	Owensboro Independent	42	42	54	49	171	270
475	Owsley County	37	34	41.5	39	18	71
476	Paducah Independent	46	40	69	59	95	200
477	Paintsville Independent	43	37	38.5	53.5	26	17
478	Paris Independent	32.5	39.5	42.5	73	15	56
481	Pendleton County	39	45	40	53.5	94	141
485	Perry County	59	58	52	49	142	262
491	Pike County	48	50	49	45	339	465
492	Pikeville Independent	38	71	53	64	75	43
493	Pineville Independent	56	58	47	48	15	35
495	Powell County	53	46	46	56	98	143
501	Pulaski County	48.5	51	49	51.5	440	309
502	Raceland-Worthington Independent	34	26	50	52	46	31
511	Rockcastle County	55	54	43	47.5	142	123
515	Rowan County	48	45	58.5	62	146	133
521	Russell County	46	40	47.5	46.5	124	144
522	Russell Independent	51.5	52.5	61	61	165	74
523	Russellville Independent	38	50	41	55	37	76
524	Science Hill Independent	39	46	59	50.5	38	23
525	Scott County	46	44.5	54	59	543	392
531	Shelby County	42	40	48	56	332	308
535	Simpson County	37	51	54	56	117	159
536	Somerset Independent	43.5	61	62	73	79	58
541	Spencer County	59	53.5	61	66	157	106
545	Taylor County	40	45	50	51	101	117
551	Todd County	54	39	44.5	40	80	111
555	Trigg County	35.5	48.5	43	63.5	88	110
561	Trimble County	36	38	37	49.5	42	86
565	Union County	49	48	44	41	89	105
567	Walton-Verona Independent	24.5	52.5	49.5	60	114	62
571	Warren County	50	46	57	63.5	776	711

District 2015	District Name	*Bottom Third* Math MSGP 2015	*Bottom Third* Reading MSGP 2015	*Top Third* Math MSGP 2015	*Top Third* Reading MSGP 2015	*Top Third* Count	*Bottom Third* Count
575	Washington County	57.5	54.5	57	49	59	84
581	Wayne County	45.5	43	49.5	49	102	224
585	Webster County	52	43	56	56	79	133
591	Whitley County	56	57	44	47	239	127
592	Williamsburg Independent	56	54.5	52	55	27	54
593	Williamstown Independent	37	39	39.5	43.5	40	31
595	Wolfe County	52.5	51	53	53	54	62
601	Woodford County	39	32	44	53	287	179

Appendix C

Bottom Third in 8th Grade: *Bottom Third* Cutpoint Description

Classifications based on performance were made for both performance in 8th grade on the mathematics and reading K-PREP and performance on the Junior year ACT for the Math, English, and Reading tests. For the mathematics and reading K-PREP tests, 8th graders were classified as scoring in either the *Bottom Third* for mathematics, the *Bottom Third* for reading, the *Bottom Third* in both, or the *Bottom Third* in neither: this classification is based upon the students raw score as it relates to all KY 8th grade students' raw scores on that particular test in the 2012 AY. *Bottom Third* is defined relative to all other students within the same grade in the same academic year. The instrument used to assess performance in the *Bottom Third* is the annual KY standardized K-PREP test, specifically the tests for mathematics and the tests for reading. Cutoff values were determined based on percentile rank of scale scores with scores at or below the 33rd percentile being considered a *Bottom Third* performance and scores at or above the 67th percentile being considered a *Top Third* performance. Cutoff values were only determined for 8th grade because an objective measure of College Readiness was used for performance in 11th grade.

8th Graders in 2012 K-PREP 33rd and 67th percentile cutoffs
2012 Math K-PREP- 197 and 214
2012 Reading K-PREP- 201 and 215

For this analysis, 8th grade mathematics K-PREP scores in 2012 were viewed in light of 11th grade ACT scores on the mathematics test in 2015. When classifying students on the junior year ACT test, the established college readiness classifications as published by KDE were used: a score of 20 or higher on the mathematics ACT test, a score of 18 or higher in the English ACT test, and a score of 20 or higher in the Reading ACT test. It is important to note that all college readiness statements reference only the score from this junior year ACT administration. Other routes exist to establish college readiness including a retaking of the ACT or performance on the COMPASS or KYOTE college placement tests.

Cohort Description

Using the Kentucky Longitudinal Data System [KLDS], 49,307 students were identified as 8th graders in the state during the 2012 AY, representing 98.4% of the student population identified by the Kentucky Department of Education [KDE] for that same group and AY. If these same students progressed a single grade each AY, they would be in 11th grade during the 2015 AY. Students may fail to be identified in the KLDS as an 11th grade student in 2015 for two reasons: non-traditional grade progression (either skipping a grade or being held back a year) or no longer being found in the Kentucky public K12 schools (enrolled in private schools or moved out of state). 85.43% (n = 42,123) of the initial 8th grade cohort (n = 49,307) advanced to 11th grade in the 2015 AY. The adjacent chart shows a breakdown of 2012 cohort attrition by reason.